

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-38 (Cancelled).

Claim 39 (New): A method of improving mobility of a body segment, the method comprising:

positioning at least two electrodes at the body segment;
applying electrical stimulation to the body segment via the at least two electrodes,
wherein the electrical stimulation is adapted to mimic a sequencing of at least two muscle groups proximate to the body segment.

Claim 40 (New): The method of Claim 39, wherein the applying includes applying the electrical stimulation transcutaneously.

Claim 41 (New): The method of Claim 40, wherein the applying further includes applying neuromuscular electrical stimulation.

Claim 42 (New): The method of Claim 39, wherein the applying includes applying neuromuscular electrical stimulation.

Claim 43 (New): The method of Claim 39, wherein the applying includes applying the electrical stimulation for approximately ten minutes to approximately four hours.

Claim 44 (New): The method of Claim 39, wherein the applying includes applying the electrical stimulation within a range of approximately 5 mA to approximately 150 mA as rated into a 500 ohm load.

Claim 45 (New): The method of Claim 39, wherein the positioning includes positioning the at least two electrodes at a thigh.

Claim 46 (New): The method of Claim 39, wherein the body segment includes or is proximate to a joint having a synovium.